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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,399	01/03/2001	Michael Mesh	S0489/7009 GSE	1927
23338	7590	11/29/2006	EXAMINER	
DENNISON, SCHULTZ & MACDONALD 1727 KING STREET SUITE 105 ALEXANDRIA, VA 22314			WONG, BLANCHE	
		ART UNIT	PAPER NUMBER	
			2616	

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/753,399	MESH ET AL.	
	Examiner Blanche Wong	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 October 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3,5,8-12,14-25,27 and 29-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,5,8-12,14-25,27 and 29-31 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 August 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Response to Arguments***

1. Applicant's arguments filed October 19, 2006 have been fully considered but they are not persuasive.

The matter at hand is not a misconception, but rather one of claim language and construction. Applicant contends that the rejection appeared to have been based on a misconception as to how "services" are defined and that "[t]hose skilled in the art refer to three groups of services: packet-based services for data transmitted in packets, TDM-based services for voice, and cell-based services or ATM for transmitting information in cells." Remark, p.8, para. 6. However, Examiner disagrees whether "[t]hose skilled in the art refer to three groups of services: packet-based services for data transmitted in packets, TDM-based services for voice, and cell-based services or ATM for transmitting information in cells" and holds that the word "services" is too generic in the art.

Examiner illustrates that the generic nature of "services" can be interpreted as video, audio and data stream in the reference Tiernan.

Applicant further contends that Tiernan's video and audio are merely different forms over packet-based networks. Remark, p. 9, para. 4. Again, Examiner disagrees that video and audio are different forms when the generic nature of "services" encompasses video and audio, both of which are services available to consumers. Whether the Applicant's intention is to share a transmission media, it is unclear what is "a metro network" (claim 1) and thus the transmission media can be packet-based networks.

Similarly, Applicant contends that Tiernan does not provide for collecting services data *in their original protocols* from a plurality of *different types of services*. Remark, p. 10, para. 2. Examiner disagrees, interprets with the generic nature of the words "protocols" and "services", and finds that the generic nature of "protocols" encompasses the different formats of video and audio, and "services" encompasses video and audio.

Examiner understands that Applicant intends multi-service multiplexing and that Applicant also intends multiple services transmission and receipt over an optical network. Remark, p.10, para. 1 and 2. However, both intentions are not evident or explicit enough in the claim language or construction.

### ***Drawings***

2. The drawings were received on August 12, 2005. These drawings are accepted by the Examiner.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-3,14,30,31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan et al. (U.S. Pat No. 6,172,988).

With regard to claim 1, Tiernan discloses (in Fig. 1) collecting (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**), *in at least one service collection unit (encoder 12, col. 5, line 58)*, services data in their original protocols (**formats of video and audio**) from a plurality of different types of services data (**elementary streams 24, col. 5, line 62; video, audio or other coded bitstream as an “elementary stream, col. 1, line 35-36**) to be transmitted; processing (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**) the services data in their original protocols (**formats of video and audio**) into packets (**PES packets**); converting (**MUX 16, col. 6, line 1**) the packets into optical signals on an optical fiber (**fiber optic link, col. 5, line 61**) for transmission into a metro network; and sorting (**DE/MUX 20, col. 6, line 6**) the service data from a plurality of said converted packets *in at least one aggregator module (decoder 18, col. 5, line 59)*, said at least one aggregator module having an aggregator optical transceiver, coupled (**path 28 between encoder and decoder, col. 5, line 64**) for optical communication to the at least one service collection unit.

However, Tiernan fails to explicitly show that each said at least one service collection unit including an optical transceiver.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to choose to use fiber optic link, col. 5, line 61, in Tiernan's method and if fiber optic link is used between the MUX and DE/MUX, it would be inherent that optical transceiver(s) is used for optical signal communication. The suggestion/motivation for

doing so would have been to transmit and receiver over the fiber optic link. Therefore, it would have been obvious to combine fiber optic link and thus optical transceiver(s) with Tiernan for the benefit of an optical transceiver, to obtain the invention as specified in claim 1.

With regard to claim 2, Tiernan further discloses receiving said aggregated services data (**output stream 34, col. 5, line 63-64**), from at least one network, *in one said at least one aggregator module (**decoder 18, col. 5, line 59**)*:

sorting or de-multiplexing (**DE/MUX 20, col. 6, line 6**) said aggregated services data according to end destination;

processing the sorted or de-multiplexed (**DE/MUX 20, col. 6, line 6**) services data into packets according to end destination;

loading (**MUX 16, col. 6, line 1**) the packets onto an optical fiber (**fiber optic link, col. 5, line 61**) for transmission to a more local network;

unloading (**DE/MUX 20, col. 6, line 6**) the packets from the optical fiber (**fiber optic link, col. 5, line 61**) *in one said at least one service collection unit*;

switching (**MUX 16, col. 6, line 1**) the packets to local service ports in said one said at least one service collection unit;

de-packing (**DE/MUX 20, col. 6, line 6**) the packets to different services data;  
and

sending (**PES De-Packetizer 22, col. 6, line 10**) data of each service to an appropriate media.

With regard to claim 3, Tiernan further discloses inserting (**MUX 16, col. 6, line 1**) the processed packets into transmission frames, before said step of loading; and wherein said step of loading includes: loading the transmission frames onto an optical fiber for transmission.

With regard to claim 14, Tiernan further discloses the step of sorting includes: switching (**MUX 16, col. 6, line 1**) services data of a single type of service to an aggregation sub-module (**DE/MUX 20, col. 6, line 6**) for said single type of service.

With regard to claim 30, Tiernan further discloses the step of sorting includes sorting (**DE/MUX 20, col. 6, line 6**) the services data according to service type, and

aggregating (**PES De-Packetizer 22, col. 6, line 8**) the sorted services data from each different service from transmission over a compatible transport network.

With regard to claim 31, Tiernan further discloses the step of sorting includes sorting (**DE/MUX 20, col. 6, line 6**) the services data from a plurality of packets according to end destination, and

aggregating (**PES De-Packetizer 22, col. 6, line 8**) said sorted data according to end destination for transmission over a compatible transport network.

5. **Claims 21,23,24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan as applied to claim 1 above, and further in view of Jasen et al. (Pub. No. US2002/0019879 A1).

With regard to claim 21, Tiernan further discloses receiving (**DE/MUX 20, col. 6, line 6**) aggregated services data from at least two networks in an aggregator (**decoder 18, col. 5, line 59**), each service data in its own protocol and at its own bit rate; sorting (**DE/MUX 20, col. 6, line 6**) the received service data, according to network destination; processing (**DE/MUX 20, col. 6, line 6**) the services data in their original protocols into packets; switching (**MUX 16, col. 6, line 1**) each packet to an appropriate trunk optical fiber (**fiber optic link, col. 5, line 61**) for transmission to said at least one service collection unit (**encoder 12, col. 5, line 58**).

However, Tiernan fails to explicitly show adding a connection identification tag to each packet.

In an analogous art, Jasen discloses adding a connection identification tag to each packet (**... tagging network traffic messages or packets ... , para. 0029]**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include adding a connection identification tag to each packet in Tiernan's system. The suggestion/motivation for doing so would have been to provide for QoS. Jasen, para. [0029]. Therefore, it would have been obvious to combine Jasen with Tiernan for the benefit of adding a connection identification tag to each packet in order to provide for QoS, to obtain the invention as specified in claim 21.

With regard to claim 23, Tiernan further discloses the step of sorting the received services data includes

sorting by de-multiplexing (**DE/MUX 20, col. 6, line 6**).

With regard to claim 24, Tiernan further discloses the step of sorting the received services data includes

separating (**DE/MUX 20, col. 6, line 6**) of aggregated services data.

6. **Claims 22,25,27,29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan and Jasen as applied to claim 21 above, and further in view of Ku et al. (Pub No. US2002/0085565).

With regard to claim 22, the combination of Tiernan and Jasen discloses the method according to claim 21. However, the combination fails to explicitly show encapsulating tagged packets into PoS transmission frame before a step of switching.

In an analogous art, Ku discloses encapsulating tagged packets into PoS transmission frame before a step of switching (**... label switching (e.g. MPLS protocol) may be used in conjunction with a link protocol (e.g. PPP over SONET ...., para. [0060]).**

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include encapsulating tagged packets into PoS transmission frame before a step of switching in Tiernan and Jasen's system. The suggestion/motivation for doing so would have been to allow disparate network equipment the ability to communicate via a shared network resource. Ku, para. [0060]. Therefore, it would have been obvious to combine Ku with Tiernan and Jasen for the benefit of encapsulating tagged packets into PoS transmission frame before a step of switching in order to allow disparate network equipment the ability to communicate via a shared network resource, to obtain the invention as specified in claim 22.

With regard to claim 25, the combination of Tiernan, Jasen, and Ho discloses the method according to claim 22. Tiernan further discloses receiving (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**) incoming packets from a plurality of trunk ports in the optical transceiver of one said at least one service collection unit (**encoder 12, col. 5, line 58**).

reassembling (**PES De-Packetizer 22, col. 6, line 8**) all segments of each service to their original bit stream (**ES 32, col. 5, line 66**); and

transmitting (**PES De-Packetizer 22, col. 6, line 8**) each service to a final destination over a local network appropriate for that service.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include decapsulating each encapsulated PoS packet; switching each packet to a local network according to said tag on the packet; and stripping off said tag in Tiernan's system. The suggestion/motivation for doing so would have been to reverse the tagging and encapsulating steps of claim 25 to reach the data packet. Therefore, it would have been obvious to combine Ho with Tiernan and Jasen for the benefit of decapsulating each encapsulated PoS packet; switching each packet to a local network according to said tag on the packet; and stripping off said tag in order to reverse the tagging and encapsulating steps of claim 25 to reach the data packet, to obtain the invention as specified in claim 25.

With regard to claim 27, Tiernan further discloses the step of receiving includes: receiving (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**) transmission frames from said plurality of trunk ports in said one said at least one service collection unit (**encoder 12, col. 5, line 58**); switching (**MUX 16, col. 6, line 1**) said transmission frames from said optical transceiver of said at least one service collection unit to at least one transmission framer (**PES De-Packetizer 22, col. 6, line 8**); and

de-packing (**DE/MUX 20, col. 6, line 6**) said transmission frames.

With regard to claim 29, Tiernan further discloses the step of transmitting includes:

passing (**encoder 12, col. 5, line 58**) said services data to a service interface in a service card; and

sending (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**) said services data through a selected destination service port in said one said at least one service collection unit (**encoder 12, col. 5, line 58**), from transmittal to a final destination.

7. **Claims 5,8,12,15-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan in view of Ku.

With regard to claim 5, Tiernan discloses collecting (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**), *in at least one service collection unit (**encoder 12, col. 5, line 58**)*, services data in their original protocols from a plurality of different types of services data (**elementary streams 24, col. 5, line 62; video, audio or other coded bitstream as an “elementary stream, col. 1, line 35-36**) to be transmitted, each said at least one service collection unit including an optical transceiver;

processing (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**) the services data in their original protocols into packets;

converting (**MUX 16, col. 6, line 1**) the packets into optical signals on an optical fiber (**fiber optic link, col. 5, line 61**) for transmission into a metro network; and sorting (**DE/MUX 20, col. 6, line 6**) the service data from a plurality of said converted packets *in at least one aggregator module* (**decoder 18, col. 5, line 59**), said at least one aggregator module having an aggregator optical transceiver, coupled (**path 28 between encoder and decoder, col. 5, line 64**) for optical communication to the at least one service collection unit.

However, Tiernan fails to explicitly show segmenting an incoming bit stream of services data; adding a tag to a header of each segment, each tag including connection identification between a source and a destination end-point of the bit stream; encapsulating said tagged segment into a Packet-over-SONET (PoS) frame; and transmitting said PoS frame over the optical transceiver of one of said at least one service collection unit.

In an analogous art, Ku discloses segmenting (**MPLS, para. [0060]**) an incoming bit stream of services data; adding (**MPLS, para. [0060]**) a tag to a header of each segment, each tag including connection identification between a source and a destination end-point of the bit stream; encapsulating (... **label switching (e.g. MPLS protocol) may be used in conjunction with a link protocol (e.g. PPP over SONET ..., para. [0060]**) said tagged segment into a Packet-over-SONET (PoS) frame; and

transmitting (**SONET**) said PoS frame over the optical transceiver of one of said at least one service collection unit (**PE and CE in Fig. 1, para. [0042]-[0043]**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include segmenting an incoming bit stream of services data; adding a tag to a header of each segment, each tag including connection identification between a source and a destination end-point of the bit stream; encapsulating said tagged segment into a Packet-over-SONET (PoS) frame; and transmitting said PoS frame over the optical transceiver of one of said at least one service collection unit in Tiernan's method. The suggestion/motivation for doing so would have been to allow disparate network equipment the ability to communicate via a shared network resource. Ku, para. [0060]. Therefore, it would have been obvious to combine Ku with Tiernan for the benefit of segmenting an incoming bit stream of services data; adding a tag to a header of each segment, each tag including connection identification between a source and a destination end-point of the bit stream; encapsulating said tagged segment into a Packet-over-SONET (PoS) frame; and transmitting said PoS frame over the optical transceiver of one of said at least one service collection unit in order to allow disparate network equipment the ability to communicate via a shared network resource, to obtain the invention as specified in claim 5.

With regard to claim 8, the combination of Tiernan and Ku discloses the method according to claim 5.

Ku further discloses a stream switch (**network switches, para. [0044]**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a stream switch in the combination of Tiernan and Ku's method. The suggestion/motivation for doing so would have been to relay and route data traffic among edge equipment and other switches. Ku, para. [0044]. Therefore, it would have been obvious to combine Ku with Tiernan for the benefit of a stream switch in order to relay and route data traffic among edge equipment and other switches, to obtain the invention as specified in claim 8.

With regard to claim 12, the combination of Tiernan and Ku discloses the method according to claim 5.

Ku further discloses a step of switching the tagged segment to an appropriate Trunk by a packet switch before a step of encapsulating (... **label switching (e.g. MPLS protocol) may be used in conjunction with a link protocol (e.g. PPP over SONET ...., para. [0060])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a step of switching before a step of encapsulating in the combination of Tiernan and Ku's method. The suggestion/motivation for doing so would have been to allow disparate network equipment the ability to communicate via a shared network resource. Ku, para. [0060]. Therefore, it would have been obvious to combine Ku with Tiernan for the benefit of a step of switching the tagged segment to an appropriate Trunk by a packet switch before said step of encapsulating in order to allow

disparate network equipment the ability to communicate via a shared network resource, to obtain the invention as specified in claim 12.

With regard to claim 15, the combination of Tiernan and Ku discloses the method according to claim 5. Tiernan further discloses a step of sorting includes: receiving incoming optical signals from said at least one service collection unit (**encoder 12, col. 5, line 58**) in an optical transceiver of one of said at least one aggregator module (**decoder 18, col. 5, line 59**); and Ku further discloses a stream switch (**network switches, para. [0044]**).

With regard to claim 16, the combination of Tiernan and Ku discloses the method according to claim 15.

Ku further discloses a step of sorting that further includes: reading tags (**MPLS, para. [0060]**) on said decapsulated tagged segments to one of said at least one aggregator module, according to said segment's tag.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a step of sorting that further includes: reading tags on said decapsulated tagged segments in the combination of Tiernan and Ku's method. The suggestion/motivation for doing so would have been to enable MPLS. Ku, para. [0060]. Therefore, it would have been obvious to combine Ku with Tiernan for the benefit of a step of sorting that further includes: reading tags on said decapsulated tagged segments in order to enable MPLS, to obtain the invention as specified in claim 16.

With regard to claim 17, the combination of Tiernan and Ku discloses the method according to claim 16. Tiernan further discloses

reassembling (**DE/MUX 20, col. 6, line 6**) data of each type to its original bit stream; and

aggregating (**PES Packetizer 14, col. 5, line 67-col. 6, line 1**) data of each said different services together for transmission over an appropriate network.

Ku further discloses removing (**MPLS, para. [0060]**) the tag from each segment.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include removing the tag from each segment in the combination of Tiernan and Ku's method. The suggestion/motivation for doing so would have been to enable MPLS. Ku, para. [0060]. Therefore, it would have been obvious to combine Ku with Tiernan for the benefit of removing the tag from each segment in order to enable MPLS, to obtain the invention as specified in claim 17.

With regard to claim 18, the combination of Tiernan and Ku discloses the method according to claim 17. Tiernan further discloses a step of aggregating that includes multiplexing (**MUX 16, col. 6, line 1**) data from a plurality of different services onto a single fiber over different wavelengths.

With regard to claim 19, the combination of Tiernan and Ku discloses the method according to claim 17. Tiernan further discloses a step of aggregating (**MUX 16, col. 6,**

**line 1)** that includes aggregating services data of a single service type directly onto an optical fiber (**fiber optic link, col. 5, line 61**) in an appropriate network.

8. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan and Ku as applied to claim 5 above, and further in view of Martin (U.S. Pat No. 6,952,480).

With regard to claim 9, the combination of Tiernan and Ku discloses the method according to claim 5. However, the combination fails to explicitly show the encapsulated segment is scrambled.

In an analogous art, Martin discloses scrambling before the SONET frame generator (**col. 1, lines 57-59**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include scrambling before the SONET frame generator in Tiernan and Ku's method. The suggestion/motivation for doing so would have been to provide protection. Martin, col. 1, line 60. Therefore, it would have been obvious to combine Martin with Tiernan and Ku for the benefit of scrambling before the SONET frame generator in order to provide protection, to obtain the invention as specified in claim 9.

9. **Claims 10 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan and Ku as applied to claim 5 above, and further in view of Farhan (U.S. Pat No. 6,356,369).

With regard to claim 10, the combination of Tiernan and Ku discloses the method according to claim 5. However, the combination fails to explicitly show a step of transmitting includes WDM multiplexing of optical signals from optical transceivers of more than one said at least one service collection unit with different specific wavelengths to be transmitted.

In an analogous art, Farhan discloses WDM multiplexing (**multiplexer/demultiplexer 325, col. 5, line 6**) of optical signals from optical transceivers (**digital optical transmitter 305 in Fig. 3, col. 4, line 30**) with different specific wavelengths to be transmitted (**it is Examiner's position that a laser diode, col. 4, line 67-col. 5, line 1, generates different specific wavelengths; see also Fig. 3**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include WDM multiplexing of optical signals from optical transceivers with different specific wavelengths to be transmitted in Tiernan and Ku's system. The suggestion/motivation for doing so would have been to enable fiber optic communication. Farhan, col. 5, line 8. Therefore, it would have been obvious to combine Farhan with Tiernan and Ku for the benefit of WDM multiplexing of optical signals from optical transceivers with different specific wavelengths to be transmitted in order to enable fiber optic communication, to obtain the invention as specified in claim 10.

With regard to claim 20, the combination of Tiernan, Ku and Farhan discloses the method according to claim 10. Tiernan further discloses

de-multiplexing (**DE/MUX 20, col. 6, line 6**) incoming optical signals; and sending (**PES De-Packetizer 22, col. 6, line 8**) said de-multiplexed signals to the optical transceiver of one said at least one aggregator module (**decoder 18, col. 5, line 59**).

10. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan and Ku as applied to claim 5 above, and further in view of Chesler et al. (U.S. Pat No. 5,042,906).

With regard to claim 11, the combination of Tiernan and Ku discloses the method according to claim 5. However, the combination fails to explicitly show a step of segmenting includes segmenting said incoming bit stream into variable-length segments.

In an analogous art, Chesler discloses variable-length segments (**L1 and L2, col. 2, line 33**) in optical communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include variable-length segments in Tiernan and Ku's method. The suggestion/motivation for doing so would have been to provide for multiple optical fiber and substantially zero dispersion. Chesler, col. 2, line 28-35. Therefore, it would have been obvious to combine Chesler with Tiernan and Ku for the benefit of variable-length

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segments in order to provide for multiple optical fiber and substantially zero dispersion, to obtain the invention as specified in claim 11.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*BW*

BW  
November 14, 2006



HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600